

0592
04/6

#2



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RAW SEQUENCE LISTING

DATE: 04/19/2002

PATENT APPLICATION: US/10/076,900

TIME: 16:08:18

Input Set : N:\Crif3\RULE60\10076900.raw

Output Set: N:\CRF3\04192002\J076900.raw

SEQUENCE LISTING

3 (1) GENERAL INFORMATION:
5 (i) APPLICANT: Weiner, David B.
6 Wang, Bin
7 Ugen, Kenneth E.
9 (ii) TITLE OF INVENTION: Methods of Inducing Mucosal Immunity
11 (iii) NUMBER OF SEQUENCES: 40
13 (iv) CORRESPONDENCE ADDRESS:
14 (A) ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & Norris
15 (B) STREET: One Liberty Place 46th Floor
16 (C) CITY: Philadelphia
17 (D) STATE: Pennsylvania
18 (E) COUNTRY: USA
19 (F) ZIP: 19103
21 (v) COMPUTER READABLE FORM:
22 (A) MEDIUM TYPE: Floppy disk
23 (B) COMPUTER: IBM PC compatible
24 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
25 (D) SOFTWARE: WordPerfect 5.1
27 (vi) CURRENT APPLICATION DATA:
C--> 28 (A) APPLICATION NUMBER: US/10/076,900
C--> 29 (B) FILING DATE: 14-Feb-2002
35 (C) CLASSIFICATION:
32 (vii) PRIOR APPLICATION DATA:
33 (A) APPLICATION NUMBER: 08/357,398
34 (B) FILING DATE:
37 (viii) ATTORNEY/AGENT INFORMATION:
38 (A) NAME: DeLuca, Mark
39 (B) REGISTRATION NUMBER: 33,229
40 (C) REFERENCE/DOCKET NUMBER: UPAP-0114
42 (ix) TELECOMMUNICATION INFORMATION:
43 (A) TELEPHONE: 215-568-3100
44 (B) TELEFAX: 215-568-3429
46 (2) INFORMATION FOR SEQ ID NO: 1:
48 (i) SEQUENCE CHARACTERISTICS:
49 (A) LENGTH: 32 base pairs
50 (B) TYPE: nucleic acid
51 (C) STRANDEDNESS: single
52 (D) TOPOLOGY: linear
W--> 53 (ii) MOLECULE TYPE: DNA
54 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
56 AGGCGTCTCG AGACAGAGGA GAGCAAGAAA TG
58 (2) INFORMATION FOR SEQ ID NO: 2:

ENTERED

32

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Input Set : N:\Crif3\RULE60\10076900.raw

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60      (i) SEQUENCE CHARACTERISTICS:
61          (A) LENGTH: 30 base pairs
62          (B) TYPE: nucleic acid
63          (C) STRANDEDNESS: single
64          (D) TOPOLOGY: linear
W--> 65      (ii) MOLECULE TYPE: DNA
66      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
68 TTTCCCTCTA GATAAGCCAT CCAATCACAC      30
70 (2) INFORMATION FOR SEQ ID NO: 3:
71      (i) SEQUENCE CHARACTERISTICS:
72          (A) LENGTH: 27 base pairs
73          (B) TYPE: nucleic acid
74          (C) STRANDEDNESS: single
75          (D) TOPOLOGY: linear
W--> 76      (ii) MOLECULE TYPE: DNA
77      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
79 TTGTTTAACT TTTGATCGAT CCATTCC      27
81 (2) INFORMATION FOR SEQ ID NO: 4:
82      (i) SEQUENCE CHARACTERISTICS:
83          (A) LENGTH: 21 base pairs
84          (B) TYPE: nucleic acid
85          (C) STRANDEDNESS: single
86          (D) TOPOLOGY: linear
W--> 87      (ii) MOLECULE TYPE: DNA
88      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
90 GATTTGTATC GATGATCTGA C      21
92 (2) INFORMATION FOR SEQ ID NO: 5:
93      (i) SEQUENCE CHARACTERISTICS:
94          (A) LENGTH: 25 base pairs
95          (B) TYPE: nucleic acid
96          (C) STRANDEDNESS: single
97          (D) TOPOLOGY: linear
W--> 98      (ii) MOLECULE TYPE: DNA
99      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
101 TGTAGTAGCA AAAGAAATAG TTAAG      25
103 (2) INFORMATION FOR SEQ ID NO: 6:
104      (i) SEQUENCE CHARACTERISTICS:
105          (A) LENGTH: 25 base pairs
106          (B) TYPE: nucleic acid
107          (C) STRANDEDNESS: single
108          (D) TOPOLOGY: linear
W--> 109      (ii) MOLECULE TYPE: DNA
110      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
112 AATTCTTAAC TATTCTTTT GCTAC      25
114 (2) INFORMATION FOR SEQ ID NO: 7:
115      (i) SEQUENCE CHARACTERISTICS:
116          (A) LENGTH: 40 base pairs
117          (B) TYPE: nucleic acid
118          (C) STRANDEDNESS: single

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119          (D) TOPOLOGY: linear
W--> 120      (ii) MOLECULE TYPE: DNA
121          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
123 ATTTGTCGAC TGGTTTCAGC CTGCCATGGC AGGAAGAAGC      40
125 (2) INFORMATION FOR SEQ ID NO: 8:
126      (i) SEQUENCE CHARACTERISTICS:
127          (A) LENGTH: 29 base pairs
128          (B) TYPE: nucleic acid
129          (C) STRANDEDNESS: single
130          (D) TOPOLOGY: linear
W--> 131      (ii) MOLECULE TYPE: DNA
132          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
134 ACGACGCGTA TTCTTTAGCT CCTGACTCC      29
136 (2) INFORMATION FOR SEQ ID NO: 9:
137      (i) SEQUENCE CHARACTERISTICS:
138          (A) LENGTH: 24 base pairs
139          (B) TYPE: nucleic acid
140          (C) STRANDEDNESS: single
141          (D) TOPOLOGY: linear
W--> 142      (ii) MOLECULE TYPE: DNA
143          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
145 GCTGACGGTA GCGGCCGCAC AATT      24
147 (2) INFORMATION FOR SEQ ID NO: 10:
148      (i) SEQUENCE CHARACTERISTICS:
149          (A) LENGTH: 22 base pairs
150          (B) TYPE: nucleic acid
151          (C) STRANDEDNESS: single
152          (D) TOPOLOGY: linear
W--> 153      (ii) MOLECULE TYPE: DNA
154          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
156 GTATTAAGCG GCCGCAATTG TT      22
158 (2) INFORMATION FOR SEQ ID NO: 11:
159      (i) SEQUENCE CHARACTERISTICS:
160          (A) LENGTH: 78 base pairs
161          (B) TYPE: nucleic acid
162          (C) STRANDEDNESS: single
163          (D) TOPOLOGY: linear
W--> 164      (ii) MOLECULE TYPE: DNA
165          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
167 AAAAAGCTTC GCGGATCCGC GTTGCGGCCG CAACCGGTCA CCGGCGACGC GTCGGTTCGAC      60
169 CGGTCATGGC TGGGCCCC      78
171 (2) INFORMATION FOR SEQ ID NO: 12:
172      (i) SEQUENCE CHARACTERISTICS:
173          (A) LENGTH: 29 base pairs
174          (B) TYPE: nucleic acid
175          (C) STRANDEDNESS: single
176          (D) TOPOLOGY: linear
W--> 177      (ii) MOLECULE TYPE: DNA
178          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

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Output Set: N:\CRF3\04192002\J076900.raw

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180 CCCAAGCTTA GACATGATAA GATACATTG                29
182 (2) INFORMATION FOR SEQ ID NO: 13:
183     (i) SEQUENCE CHARACTERISTICS:
184         (A) LENGTH: 22 base pairs
185         (B) TYPE: nucleic acid
186         (C) STRANDEDNESS: single
187         (D) TOPOLOGY: linear
W--> 188     (ii) MOLECULE TYPE: DNA
189     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
191 CTAGCAGCTG GATCCCAGCT TC                22
193 (2) INFORMATION FOR SEQ ID NO: 14:
194     (i) SEQUENCE CHARACTERISTICS:
195         (A) LENGTH: 24 base pairs
196         (B) TYPE: nucleic acid
197         (C) STRANDEDNESS: single
198         (D) TOPOLOGY: linear
W--> 199     (ii) MOLECULE TYPE: DNA
200     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
202 GGATTTCTGG GGATCCAAGC TAGT                24
204 (2) INFORMATION FOR SEQ ID NO: 15:
205     (i) SEQUENCE CHARACTERISTICS:
206         (A) LENGTH: 31 base pairs
207         (B) TYPE: nucleic acid
208         (C) STRANDEDNESS: single
209         (D) TOPOLOGY: linear
W--> 210     (ii) MOLECULE TYPE: DNA
211     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:
213 TATAGGATCC GCGCAATGAA AGACCCCAACC T        31
215 (2) INFORMATION FOR SEQ ID NO: 16:
216     (i) SEQUENCE CHARACTERISTICS:
217         (A) LENGTH: 31 base pairs
218         (B) TYPE: nucleic acid
219         (C) STRANDEDNESS: single
220         (D) TOPOLOGY: linear
W--> 221     (ii) MOLECULE TYPE: DNA
222     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:
224 ATATGGATCC GCAATGAAAG ACCCCCCGCTG A        31
226 (2) INFORMATION FOR SEQ ID NO: 17:
227     (i) SEQUENCE CHARACTERISTICS:
228         (A) LENGTH: 30 base pairs
229         (B) TYPE: nucleic acid
230         (C) STRANDEDNESS: single
231         (D) TOPOLOGY: linear
W--> 232     (ii) MOLECULE TYPE: DNA
233     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:
235 TAAAGCGGCC GCTCCTATGG CAGGAAGACG          30
237 (2) INFORMATION FOR SEQ ID NO: 18:
238     (i) SEQUENCE CHARACTERISTICS:
239         (A) LENGTH: 34 base pairs

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240         (B) TYPE: nucleic acid
241         (C) STRANDEDNESS: single
242         (D) TOPOLOGY: linear
W--> 243     (ii) MOLECULE TYPE: DNA
244         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:
246 ATTACGCGTC TTATGCTTCT AGCCAGGCAC AATG                      34
248 (2) INFORMATION FOR SEQ ID NO: 19:
249     (i) SEQUENCE CHARACTERISTICS:
250         (A) LENGTH: 40 base pairs
251         (B) TYPE: nucleic acid
252         (C) STRANDEDNESS: single
253         (D) TOPOLOGY: linear
W--> 254     (ii) MOLECULE TYPE: DNA
255         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:
257 ATTACGCGTT TATTACAGAA TGGAAAACAG ATGGCAGGTG                40
259 (2) INFORMATION FOR SEQ ID NO: 20:
260     (i) SEQUENCE CHARACTERISTICS:
261         (A) LENGTH: 32 base pairs
262         (B) TYPE: nucleic acid
263         (C) STRANDEDNESS: single
264         (D) TOPOLOGY: linear
W--> 265     (ii) MOLECULE TYPE: DNA
266         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:
268 ATTACGCGTT ATTGCAGAAT TCTTATTATG GC                        32
270 (2) INFORMATION FOR SEQ ID NO: 21:
271     (i) SEQUENCE CHARACTERISTICS:
272         (A) LENGTH: 38 base pairs
273         (B) TYPE: nucleic acid
274         (C) STRANDEDNESS: single
275         (D) TOPOLOGY: linear
W--> 276     (ii) MOLECULE TYPE: DNA
277         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:
279 GAGGCTTGGA GAGGATTATA GAAGTACTGC AAGAGCTG                38
281 (2) INFORMATION FOR SEQ ID NO: 22:
282     (i) SEQUENCE CHARACTERISTICS:
283         (A) LENGTH: 39 base pairs
284         (B) TYPE: nucleic acid
285         (C) STRANDEDNESS: single
286         (D) TOPOLOGY: linear
W--> 287     (ii) MOLECULE TYPE: DNA
288         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:
290 GAATCCTCTC CAAGCCTCAG CTACTGCTAT AGCTGTGGC                39
292 (2) INFORMATION FOR SEQ ID NO: 23:
293     (i) SEQUENCE CHARACTERISTICS:
294         (A) LENGTH: 39 base pairs
295         (B) TYPE: nucleic acid
296         (C) STRANDEDNESS: single
297         (D) TOPOLOGY: linear
W--> 298     (ii) MOLECULE TYPE: DNA

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VERIFICATION SUMMARY

DATE: 04/19/2002

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TIME: 16:08:19

Input Set : N:\Crif3\RULE60\10076900.raw

Output Set: N:\CRF3\04192002\J076900.raw

L:28 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:29 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:53 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=1
L:65 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=2
L:76 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=3
L:87 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=4
L:98 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=5
L:109 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=6
L:120 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=7
L:131 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=8
L:142 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=9
L:153 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=10
L:164 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=11
L:177 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=12
L:188 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=13
L:199 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=14
L:210 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=15
L:221 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=16
L:232 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=17
L:243 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=18
L:254 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=19
L:265 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=20
L:276 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=21
L:287 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=22
L:298 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=23
L:309 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=24
L:320 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=25
L:331 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=26
L:342 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=27
L:353 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=28
L:366 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=29
L:377 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=30
L:388 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=31
L:399 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=32
L:410 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=33
L:421 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=34
L:432 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=35
L:445 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=36
L:458 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=37
L:469 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=38
L:482 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=39
L:493 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=40